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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,348	07/31/2003	Sarah Young	11150/76	3597

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EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,348	YOUNG, SARAH	
	Examiner	Art Unit	
	Regina Liang	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/3/06 has been entered. Claims 1-25 are pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The amendment filed 1/16/04 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the original specification does not provide support for the newly added paragraph on page 4, lines 11-12.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to

which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3-5, 7-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant's disclosure is nonenabling as to ***how*** to make the actuator layer convexly or concavely deformed (claims 3-5). Applicant has failed to disclose at least one manner of making the invention therefore the specification is nonenabling and undue experimentation is required of a personal of ordinary skill in the art in order to make and use the invention.

The specification does not provide any description as to ***how*** the actuator layer is deformable as a function of an electrical field, electromagnetic field or optical signal, e.g., light as claimed (claims 7-10). Therefore, applicant's disclosure is nonenabling as to how an optical signal, an electrical field, or an electromagnetic field will cause the deformable geometry as claimed

Claim Rejections - 35 USC § 102

6. Claims 1, 3, 5-13, 15-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Franzen (US 2003/0179190).

The recitation that "a steering wheel", "a passenger compartment of a motor vehicle" and "a motor vehicle" (claims 20-22) has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the

portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

As to claims 1, 20-22, Franzen discloses a display device, comprising a display (electronic paper S2); and an actuator layer (transparent flexible sensor mat S1, see [0022]) arranged on the display and including an operating surface geometry deformable as a function of a control signal generated by at least one of a computation device (control unit μp, see [0031]-[0034]).

As to claims 3, 5, Franzen teaches the actuator layer is convexly deformable (see the figure).

As to claim 6. Franzen teaches the actuator layer is transparent (transparent flexible sensor mat, lines 1-3 in [0022]).

As to claims 7 and 8, Franzen teaches the control signal includes an optical signal or light ([0035]-[0036]).

As to claims 9, 10. Franzen teaches the control signal includes an electrical field or an electromagnetic field ([0020]-[0021]).

As to claim 11, Franzen teaches the actuator layer is statically deformable at least for a duration of the control signal ([0033]).

As to claims 12, 13, Franzen teaches the display is configured to receive entry of user input or an area of the actuator layer is configured to receive the entry of the user input (virtual keypad).

As to claim 15, Franzen teaches the actuator layer is controllable by haptic feedback (tactile feedback).

As to claim 16, Franzen teaches the sensor mat detecting a touch or a press at a point of the first layer and the control unit generates the control signal to deform the actuator, it is inherent that the actuator is deformable by pressure with a force that exceeds a limiting value otherwise the sensor mat can not detect a touch or a press caused by the user.

As to claims 17 and18, Franzen teaches a computation device (control unit μp) configured to deform the actuator layer in accordance with the control signal at a point of contact of the actuator layer touched by the user or at the point of contact only in response to an input via the display by the user by touch at the point of contact.

As to claim 19, Franzen teaches the actuator layer is configured to produce an operating element.

As to claim 23, Franzen teaches the operating surface (sensor mat layer S1) geometry is deformable in response to the control signal.

As to claim 24, Franzen teaches a computation device (control unit μp) configured to generate the control signal, the operative surface geometry deformable in response to the control signal generated by the computation device.

As to claim 25, Franzen teaches the operating surface geometry is deformable is response to an electronic control signal.

Claim Rejections - 35 USC § 103

7. Claims 1-13, 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau (US PAT. NO. 6,373,472) in view of Franzen.

As to claims 1, 2, 20-22, Figs. 1, 2, 9 of Palalau discloses a display device in a steering wheel of a motor vehicle, comprising a touch screen display (28, 32, 36).

Palalau does not disclose the touch screen display having an actuator layer, wherein the actuator includes an operating surface geometry deformable as a function of a control signal generated by at least one of a computation device and a logic circuit.

However, Franzen discloses a touch-sensitive display with tactile feedback, comprising a display (electronic paper S2); and an actuator layer (transparent flexible sensor mat S1, see [0022]) arranged on the display and including an operating surface geometry deformable as a function of a control signal generated by at least one of a computation device (control unit μp, see [0031]-[0034]). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch screen of Palalau to have the feature as taught by Franzen such that "a tactile feedback is given directly at the location of the contact", and "the user receives an intuitive level of feedback which offers the user a greater degree of confidence when handling a touch-sensitive display and minimizes or neutralizes the influence of disruptive noise and lighting conditions" (page 1, lines 3-4 in [0012], lines 8-12 in [0013] of Franzen).

As to claims 3, 5, Franzen teaches the actuator layer is convexly deformable (see the figure).

As to claim 4, Palalau as modified by Franzen does not disclose the actuator layer is concavely deformable. It is noted that Franzen teaches the actuator layer is deformable which is

controlled by the piezoelectric elements, the "knobs" or bins of the piezoelectric elements are moving up or down would cause the actuator layer (first layer) moves up or down. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to realize the actuator layer of Franzen have concavely deformable when the "knobs" or bins of the piezoelectric elements are moved down.

As to claim 6. Franzen teaches the actuator layer is transparent (transparent flexible sensor mat, lines 1-3 in [0022]).

As to claims 7 and 8, Franzen teaches the control signal includes an optical signal or light ([0035]-[0036]).

As to claims 9, 10. Franzen teaches the control signal includes an electrical field or an electromagnetic field ([0020]-[0021]).

As to claim 11, Franzen teaches the actuator layer is statically deformable at least for a duration of the control signal ([0033]).

As to claims 12, 13, Franzen teaches the display is configured to receive entry of user input or an area of the actuator layer is configured to receive the entry of the user input (virtual keypad).

As to claim 15, Franzen teaches the actuator layer is controllable by haptic feedback (tactile feedback).

As to claim 16, Franzen teaches the sensor mat detecting a touch or a press at a point of the first layer and the control unit generates the control signal to deform the actuator, it is inherent that the actuator is deformable by pressure with a force that exceeds a limiting value otherwise the sensor mat can not detect a touch or a press caused by the user.

As to claims 17 and18, Franzen teaches a computation device (control unit μp) configured to deform the actuator layer in accordance with the control signal at a point of contact of the actuator layer touched by the user or at the point of contact only in response to an input via the display by the user by touch at the point of contact.

As to claim 19, Franzen teaches the actuator layer is configured to produce an operating element.

As to claim 23, Franzen teaches the operating surface (sensor mat layer S1) geometry is deformable in response to the control signal.

As to claim 24, Franzen teaches a computation device (control unit μp) configured to generate the control signal, the operative surface geometry deformable in response to the control signal generated by the computation device.

As to claim 25, Franzen teaches the operating surface geometry is deformable is response to an electronic control signal.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau and Franzen applied to claim 1 above, and further in view of Mulligan (US 2004/0017362).

Palalau as modified by Franzen does not disclose the actuator layer includes a sol-gel. However, Mulligan teaches touch sensor device comprising a sol-gel ([0029]). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the actuator layer of Palalau as modified by Franzen to include a sol-gel as taught by Mulligan so as to protect the sensor bars of the touch sensor from damage due to a touch.

Response to Arguments

9. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's remarks that there is enablement regarding claims 3 and 5 are not persuasive. Applicant's statement that "the particular details of how the control signal is sent to the deformable geometry to produce a convexly shaped region would be readily understood to a personal of ordinary skill in the art and need not be spelled out in the Specification" is conclusionary and is not persuasive. The particulars as to how the control signal is sent to the deformable geometry is an important and essential to the invention, without any disclosure as to how this is done applicant has failed to disclose at least one manner of making the invention and undue experimentation is required of a personal of ordinary skill in the art in order to make and use the invention.

The same comments also applies to claims 7-10 since applicant's disclosure is nonenabling as to how an optical signal, an electrical field, or an electromagnetic field will cause the deformable geometry as claimed. The specification is nonenabling since it fails to disclose how are these signals control, applied, etc. as to cause the deformation of the actuator. Again, applicant is relying on others to fill in the gaps as to how this is done, and as such undue experimentation is required of a personal of ordinary skill in the art in order to make and use the invention. Therefore, the specification is nonenabling for claims 3- 5, 7-10 and fails to show that applicant had possession of the claimed subject matter; and applicant's remarks are not persuasive.

The new paragraph added on page 4, between lines 11 and 12 are new matter. Contrary to applicant's assertion, the passage cited by applicant fails to provide support for this new paragraph. The cited passage does not disclose "the layer is continuously actuated...feedback". Therefore, this is new matter.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Regina Liang
Primary Examiner
Art Unit 2674

11/17/06